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ATTACHMENT 36

Page 1 of 21

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION SUMMARY FOR DATA PACKAGE:
9310L453-WES-1362 (923-E416)

94535490

MEMORANDUM 1994

TO: 200 Area Biota Project QA Record ~~DATA DOCUMENTATION~~ February 3, 1994
SDLA
FR: Christina Jensen, Golder Associates Inc.
RE: GENERAL CHEMISTRY ANALYSIS DATA VALIDATION SUMMARY FOR DATA
PACKAGE 9310L453-WES-1362 (923-E416)

INTRODUCTION

This memorandum presents the results of data validation on data package 9310L453-WES-1362 consisting of one soil sample analyzed for general chemistry parameters. The sample was analyzed by the Weston Analytics laboratory of Lionville, Pennsylvania using SW-846 methods. A list of the samples validated is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSIS
B09900*	10/22/93	SOIL	SEE NOTE 1

Notes:

* Indicates sample which received 100% validation.

1. The sample was analyzed for nitrate-nitrite and percent solids.

Data validation was conducted in accordance with the WHC statement of work (WHC 1993) and validation procedures (WHC 1992). Attachments 1 through 5 provide the following information as indicated below:

- Attachment 1. Glossary of Data Reporting Qualifiers
- Attachment 2. Summary of Data Qualifications
- Attachment 3. Qualified Data Summary and Annotated Laboratory Reports
- Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation
- Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

Precision. Goals for precision were met.

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw data.



Detection Limits. Detection limit goals were met.

Completeness. The data package was complete for all requested analyses. A total of one sample was validated in this data package with a total of 2 determinations reported, all of which were deemed valid. This results in a completeness of 100 percent which meets normal work plan objectives of 90%.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

No minor deficiencies were identified during validation which required qualification of data.

REFERENCES

WHC 1993, Validation of 200 Area Biota Data, Statement of Work, Analytical Laboratory Data Validation, Task Order S-94-16, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC 1992, Westinghouse Hanford Company, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 1, 1992. Westinghouse Hanford Company, Richland, Washington.

-----ATTACHMENT 1

GLOSSARY OF DATA REPORTING QUALIFIERS

06052816
940225 0470

GLOSSARY OF INORGANIC DATA REPORTING QUALIFIERS

- 9473225.017
- B -** Indicates the constituent was analyzed for and detected. The concentration reported is less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL). The associated data should be considered usable for decision making purposes.
- U -** Indicates the constituent was analyzed for and not detected. The concentration reported is the sample detection limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ -** Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration may not accurately reflect the sample detection limit. The associated data have been qualified as estimated but should be considered usable for decision making purposes.
- BJ -** Indicates the constituent was analyzed for and detected at a concentration less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL). Due to a minor quality control deficiency identified during data validation the associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- J -** Indicates the constituent was analyzed for and detected. Due to a minor quality control deficiency identified during data validation the associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- UR -** Indicates the constituent was analyzed for and not detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.
- R -** Indicates the constituent was analyzed for and detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.

ATTACHMENT 2

SUMMARY OF DATA QUALIFICATIONS

94025.0472

DATA QUALIFICATION SUMMARY - FORM B-7

[illegible]

ATTACHMENT 3

QUALIFIED DATA SUMMARY AND
ANNOTATED LABORATORY RESULTS

9473225.0474

9413225.0475

Validated Data Summary, Data Package: 93101453-WES-1362

Parameter	Sample	809900	
	Units	Result	Q
NITRATE/NITRITE	MG-N/K	78.100	
PERCENT SOLIDS	%	95.900	

10/12/14
JWH

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 11/19/93

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9310L453

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	REPORTING		DILUTION FACTOR
				UNITS	LIMIT	
-001	B09900	% Solids	95.9	%	0.10	1.0
		Nitrate Nitrite	78.1	MG-N/KG	10.4	20.0

941325.076

Verified
g 2/2/94

ATTACHMENT 4

LABORATORY NARRATIVE AND CHAIN-OF-CUSTODY DOCUMENTATION

9413225.0477



ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

Client : WESTINGHOUSE HANFORD
RFW# : 9310L453

W.O. #: 06168-002-001-9999-00
Date Received: 10-29-93

INORGANIC

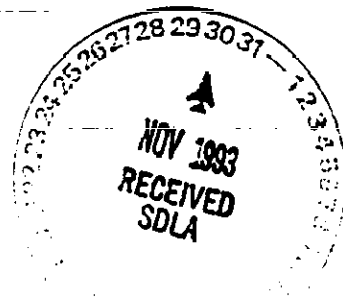
The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

1. All sample holding times as required by 40CFR136 were met.
2. All preparation blank results were below the required detection limits.
3. All calibration verification checks were within the required control limits of 90-110%. Calibration verification is performed using independent standards.
4. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limits. All %RPD were within the 20% guidance limit.
5. Replicate results are summarized on the Inorganic Precision Report contained within this document. All results were within the 20% RPD guidance limit.
6. The analytical methods applied by the laboratory, unless otherwise requested, for the analysis of solid samples are derived from Test Methods for Evaluating Solid Waste (USEPA SW846).

RECORDED

Margaret M. Leahy
J. Peter/Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

11/23/93
Date



ADDENDUM

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Margaret M. Beatty

Name: MARGARET M. Beatty

Date: 11/23/93

Title: Section Manager

9413225.0479

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator L E ROGERS

Company Contact L E ROGERS

Telephone 376-7690

Project Designation/Sampling Locations 200-UP-2

Collection Date 10-22-93

Ice Chest No. MTL-122

Field Logbook No. EFL-1091

Bill of Lading/Airbill No. _____

Offsite Property No. _____

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to WESTON

Possible Sample Hazards/Remarks Keep samples at 4C (SOIL) NONE NOTED

Sample Identification

- 1) B09900
1,120ml P/G:Anions NO2,NO3 (EPA 353.1)
1,1000ml P/G:Gross beta (PRO-032-15), U-235,U-234,U-238 (PRO-052-32) Tc-99 (PRO-032-78)
- 2) ~~1,120ml P/G:Anions NO2,NO3 (EPA 353.1)
1,1000ml P/G:Gross Beta (PRO-032-15), U-235,U-234,U-238 (PRO-052-32) Tc-99 (PRO-032-78)~~
- 3) ~~1,120ml P/G:Anions NO2,NO3 (EPA 353.1)
1,1000ml P/G:Gross beta (PRO-032-15), U-235,U-234,U-238 (PRO-052-32) Tc-99 (PRO-032-78)~~



Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished by: <u>10-28-93</u> <u>L E Rogers</u>	Received by: _____	Date/Time: _____
Relinquished by: <u>Emily</u>	Received by: <u>Brian E Shaffer</u>	Date/Time: <u>10/24/93 1300</u>
Relinquished by: _____	Received by: _____	Date/Time: _____
Relinquished by: _____	Received by: _____	Date/Time: _____

Final Sample Disposition

Disposal Method: _____	Disposed by: _____	Date/Time: _____
Comments: _____		

ATTACHMENT 5

DATA VALIDATION SUPPORTING DOCUMENTATION

947322-0481

WET CHEMISTRY DATA VALIDATION CHECKLIST - FORM A-7

PROJECT: 200UP2	REVIEWER: G	DATE: 2/2/94
LABORATORY: Weston	CASE:	SDG: 93106453-also-1362
SAMPLES/MATRIX: Soil B09900		
NO ₂ /NO ₃ analysis only and percent solids		

1. DATA PACKAGE COMPLETENESS

Review the data package for completeness and check off the items below. If any data review elements are missing contact the laboratory for submittal of the omitted data.

Data Package Item	Present?:	Yes	No	N/A
Case Narrative		—	—	—
Cover Page		—	—	—
Traffic Reports/Chain-of-Custody		—	—	—
Sample Analysis Data Report Forms		—	—	—
Standards Data		—	—	—
QC Summary		—	—	—
Blanks Summary Report Forms		—	—	—
Spike Sample Recovery Report Forms		—	—	—
Duplicate Sample Analysis Report Forms		—	—	—
Laboratory Control Sample Report Forms		—	—	—
Raw Data		—	—	—
Ion Chromatograph Chromatograms		—	—	—
TOC and TOX Instrument Printouts		—	—	—
Laboratory Bench Sheets		—	—	—
Additional Data		—	—	—
Laboratory Sample Preparation Logs		—	—	—
Instrument Run Logs		—	—	—
Internal Laboratory Chain-of-Custody		—	—	—
Percent Solids Analysis Records		—	—	—
Reduction Formulae		—	—	—
Chemist Notebook Pages		—	—	—

Not required
5/2/94

2. HOLDING TIMES

Were all samples analyzed within holding times?

Yes No N/A

Action: If any holding times were exceeded qualify all affected results as estimated (J for detects and UJ for nondetects).

3. INITIAL CALIBRATIONS

Were all instruments calibrated daily, each set-up time and were the proper number of standards used?

☒ Yes No N/A

Are the correlation coefficients ≥ 0.995 ?

☒ Yes No N/A

Was a balance check conducted prior to the TDS analysis?

Yes No ☒ N/A

Was the titrant normality checked?

Yes No ☒ N/A

ACTION: Qualify all data as unusable (R) if reported from an analysis in which the above criteria were not met.

4. INITIAL AND CONTINUING CALIBRATION VERIFICATION

Have ICV and CCV been analyzed at the proper frequency?

☒ Yes No N/A

Are ICV and CCV percent recoveries within control?

☒ Yes No N/A

Are there calculation errors?

Yes ☒ No N/A

ACTION: Qualify all affected data in accordance with the validation requirements.

5. LABORATORY BLANKS

Are target analytes present in the laboratory blanks?

Yes ☒ No N/A

ACTION: Qualify all associated sample results for any analyte < 5 times the amount in any laboratory blank as nondetected (U) and list the affected samples and analytes below.

6. FIELD BLANKS

Are target analytes present in the field blanks?

Yes No ☒ N/A

ACTION: Qualify all sample results for any analyte < 5 times the amount in any valid field blank as nondetected (U).

7. MATRIX SPIKE SAMPLE ANALYSIS

Are spike recoveries within the acceptance limits?

☒ Yes No N/A

ACTION: If the sample concentration exceeds the spike concentration by a factor of 4 or more, and spike recoveries are outside the acceptance limits, no qualification is necessary. If spike recovery is outside the control limits and the sample results are $> CRQL$, qualify the data as estimated (J). If the spike recovery is $< 30\%$ and the sample results are less than the IDL qualify the data as unusable (R).

8. LABORATORY CONTROL SAMPLE

See comment 1

Are percent recoveries within the acceptance limits?

Yes No ☒ N/A

Are there calculation errors?

Yes ☒ No N/A

ACTION: Qualify the affected results according to the following requirements:

AQUEOUS LCS - Qualify as estimated (J), all sample results > IDL, for which the LCS %R falls within the range 50-79% or > 120%. Qualify as estimated (UJ), all sample results < IDL, for which the LCS falls within the range of 50-79%. Qualify as unusable (R) all sample results, for which the LCS %R < 50%.

SOLID LCS - Qualify as estimated (J), all sample results > IDL for which the LCS %R is outside the established control limits. Qualify as estimated (UJ), all sample results < IDL for which the LCS %R are lower than the established control limits.

9. PERFORMANCE AUDIT ANALYSES

Are the performance audit sample results within the acceptance limits?

Yes No ☒ N/A

ACTION: Note the results of the performance audit samples in the validation narrative.

10. DUPLICATE SAMPLE ANALYSIS

Are RPD values within the acceptance limits?

Yes ☒ No N/A

Action: Qualify the results for all associated samples of the same matrix as estimated (J) if the RPD falls outside the acceptance limits.

11. FIELD DUPLICATE SAMPLES

Do RPD values exceed the acceptance limits?

Yes No ☒ N/A

ACTION: Note the results of the field duplicate samples in the validation narrative.

12. FIELD SPLIT SAMPLES

Do RPD values exceed the acceptance limits?

Yes No ☒ N/A

ACTION: Note the results of the field split samples in the validation narrative.

13. ANALYTE QUANTITATION AND DETECTION LIMITS

Have results been reported and calculated correctly?

☒ Yes No N/A

Are instrument detection limits below the CRDL?

☒ Yes No N/A

Action: If analyte quantitation is in error, contact the laboratory for explanation. If errors or deficiencies can not be resolved with the laboratory, qualify associated data as unusable (R).

14. OVERALL ASSESSMENT AND SUMMARY

Has the laboratory conducted the analysis in accordance with the analytical SOW?

☒ Yes No N/A

normal
Were project-specific data quality objectives met for this analysis?

☒ Yes No N/A

ACTION: Summarize all the data qualifications and complete the data validation narrative as specified in Section 10.0 of the data validation requirements.

5850 5727 716
913725 005

COMMENTS (attach additional sheets as necessary):

The laboratory analyzed a PbO_2 standard at the beginning of the analysis which was good. Then ran 21C but no LCS. No qualification of data.

9413225-0486

Roy F. Weston, Inc. - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
WESTINGHOUSE HANFORD

DATE RECEIVED: 10/29/93

RFW LOT # :9310L453

CLIENT ID /ANALYSIS RFW # MTX PREP # COLLECTION EXTR/PREP ANALYSIS

B09900

* SOLIDS	001	S	93L&S190	10/22/93	11/02/93	11/02/93
* SOLIDS	001 REP	S	93L&S190	10/22/93	11/02/93	11/02/93
NITRATE NITRITE	001	S	93LNS207	10/22/93	11/18/93	11/18/93
NITRATE NITRITE	001 REP	S	93LNS207	10/22/93	11/18/93	11/18/93
NITRATE NITRITE	001 MS	S	93LNS207	10/22/93	11/18/93	11/18/93
NITRATE NITRITE	001 MSD	S	93LNS207	10/22/93	11/18/93	11/18/93
SUB-OUT TEST FOR SUB	001	S		10/22/93		

QAS QC:

NITRATE NITRITE	MB1	S	93LNS207	N/A	11/18/93	11/18/93
NITRATE NITRITE	MB1 BS	S	93LNS207	N/A	11/18/93	11/18/93
NITRATE NITRITE	MB1 BSD	S	93LNS207	N/A	11/18/93	11/18/93
NITRATE NITRITE	MB2	S	93LNS207	N/A	11/18/93	11/18/93
NITRATE NITRITE	MB2 BS	S	93LNS207	N/A	11/18/93	11/18/93

cf 2/2/94

0009-020